National Weather Service Grand Rapids Event Summary

Lake Effect Snow

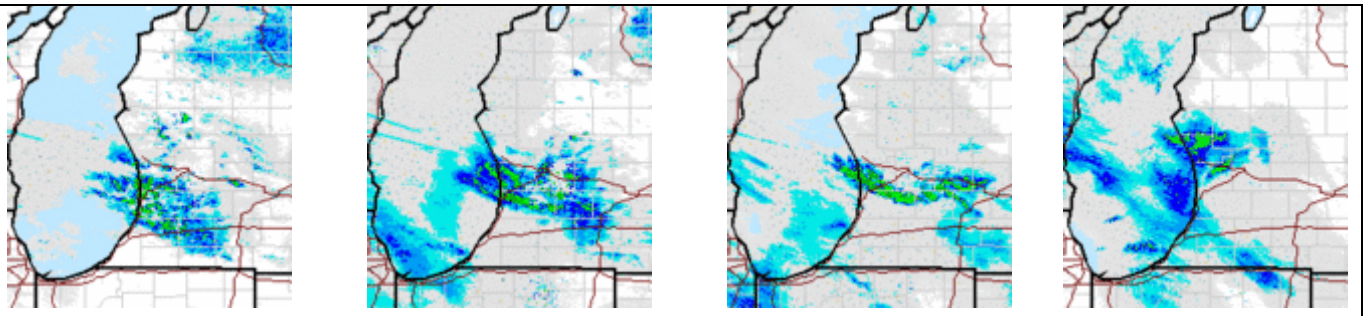
01/13/11 – 01/14/11

Overview

Mainly light to moderate lake effect snow showers developed and persisted across western Lower Michigan on the evening of the 13th and lasted into the early morning hours of the 14th. Light and variable winds helped shift snow bands back and forth across the area. In spite of limited moisture in the atmosphere, the lake effect snow bands remained resilient for much of the afternoon and evening.

A few periods of moderate to heavy snow affected the lake shore region in particular, especially Muskegon, Ottawa, and Allegan counties where visibilities dropped to a quarter mile or less in spots. A Winter Weather Advisory was issued at 3:06pm on the 13th for Mason, Lake, Oceana, Newaygo, Muskegon, Ottawa, and Allegan Counties for 3 to 6 inches of snow.

Radar



a) 2 PM EST b) 5 PM EST c) 8 PM EST c) 2 AM EST

Fig. 1. Radar images at selected times on January 13th – 14th, 2011.

Snow started in a broad area of disorganized bands over Southwest Lower Michigan in the early afternoon on the 13th (Fig. 1a), however by evening, a single persistent snow band formed with greater intensity (Fig. 1c), as noted by the green colors.

Storm Total Precipitation

A general 2 to 4 inches of snow fell across the area, with one major exception. Western Ottawa County was especially hard hit and remained in solid snow shower coverage for an extended period of time. Storm total snowfall of over 8 inches fell from Holland to Grand Haven. There was a report of 11 inches north of Holland State Park, but that included snowfall since midnight on the 6th. On the following page is a radar estimated storm total snowfall graphic. It is typical for the radar to under-estimate snowfall at greater distances (e.g., north of Muskegon) due to the radar beam being too high to detect snowfall. This effect is documented by comparing Fig. 2 to the 24 hour estimated snowfall in Fig. 3.

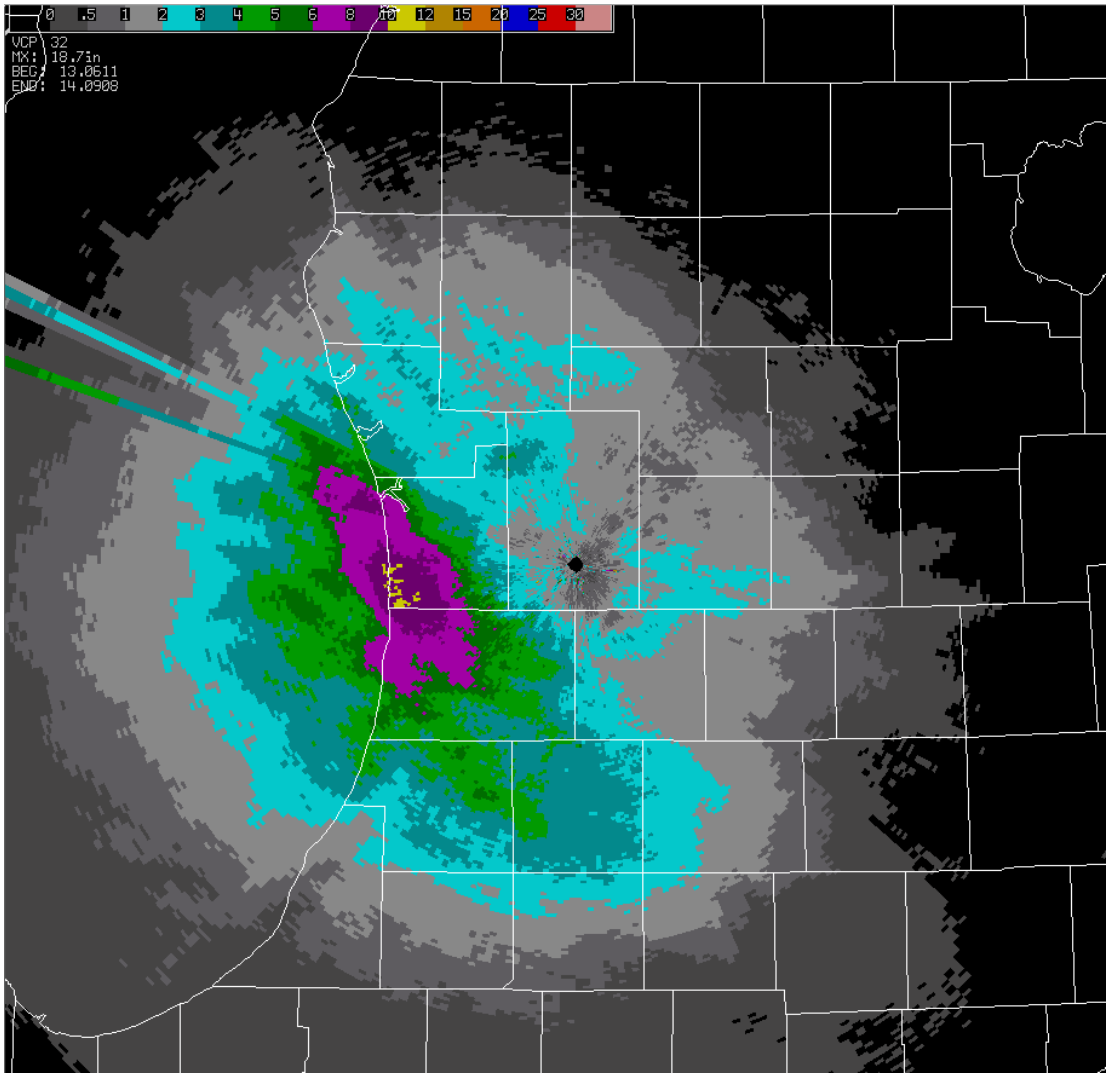


FIG. 2. Radar estimated snowfall ending at 5 AM January 14th, 2011. Color scale at the top is inches of snowfall.

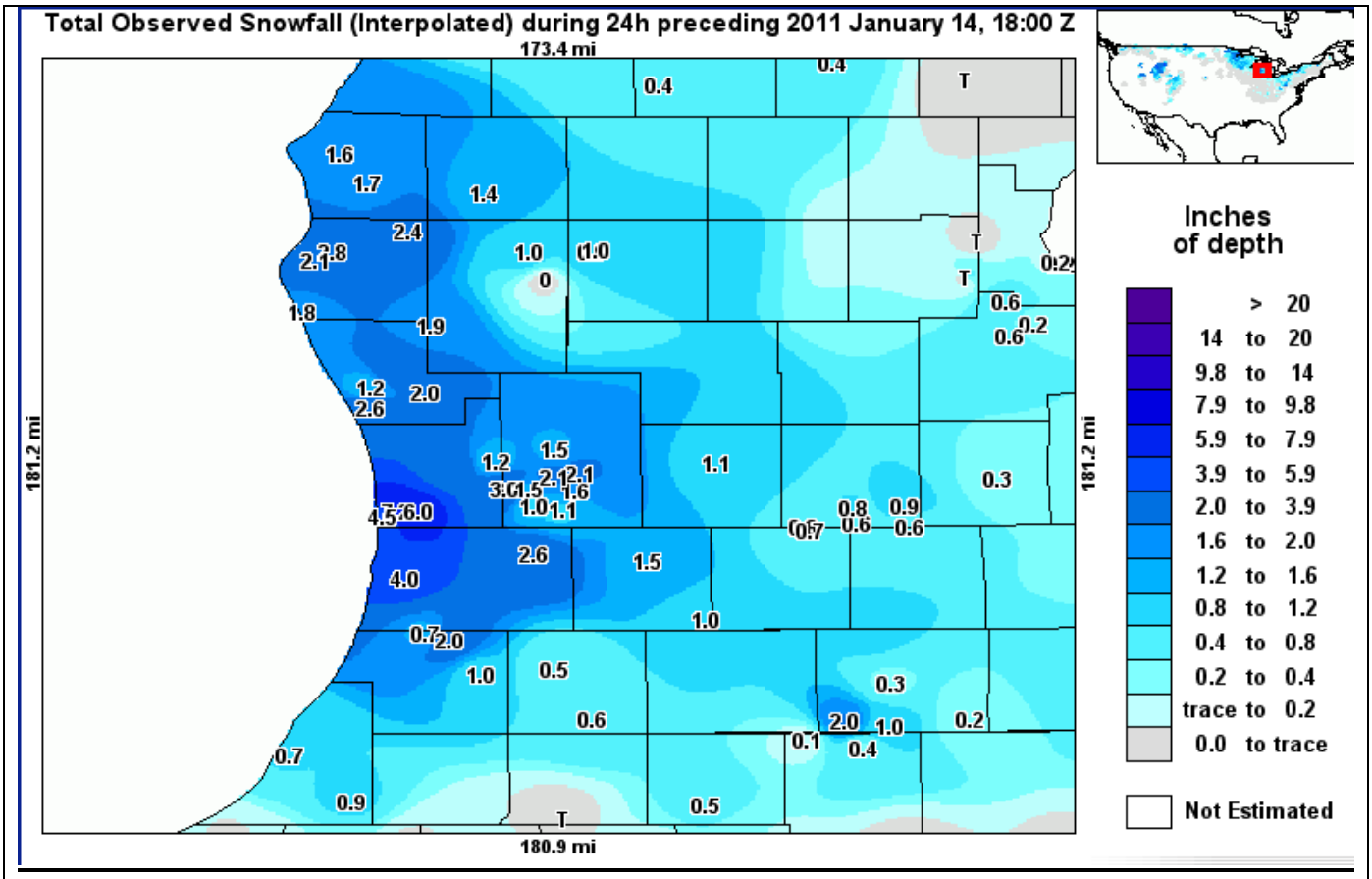


FIG. 3. 24-hour snowfall ending at 1 PM EST January 14th, 2011.

Graphic available at: http://www.nohrsc.noaa.gov/interactive/html/map.html

Local Storm Reports

MOST OF THESE REPORTS ARE 24 HOUR TOTALS. A FEW REPORTS GO BACK TO VERY EARLY THURSDAY MORNING. THANK YOU TO OUR SPOTTERS... COOP OBSERVERS... COCORAHS OBSERVERS... AND THE MEDIA FOR YOUR REPORTS.

SNOW REPORTS

LOCATION	OBSERVED VALUE	TIME/DATE OF OBSERVATION	LAT	LON
MICHIGAN				
...ALLEGAN COUNTY...				
2 W WAYLAND	4.2 M	700 AM 01/14	42.67N	85.68W
...BARRY COUNTY...				
4 W BELLEVUE	1.0 M	700 AM 01/14	42.44N	85.10W
HASTINGS	1.5 M	700 AM 01/14	42.65N	85.29W
...JACKSON COUNTY...				
5 SE HORTON	1.0 M	800 AM 01/14	42.10N	84.45W
4 W HANOVER	2.0 M	800 AM 01/14	42.10N	84.63W
...KALAMAZOO COUNTY...				
1 NE VICKSBURG	1.3 M	700 AM 01/14	42.13N	85.52W
...KENT COUNTY...				
4 E KENTWOOD	1.9 M	700 AM 01/14	42.90N	85.51W
EAST GRAND RAPIDS	2.1 M	700 AM 01/14	42.94N	85.61W
GRANDVILLE	3.9 M	900 AM 01/14	42.91N	85.76W
...LAKE COUNTY...				
BALDWIN	1.8 M	800 AM 01/14	43.90N	85.85W
...MASON COUNTY...				
SCOTTVILLE	2.3 M	700 AM 01/14	43.95N	86.28W
7 NNW SCOTTVILLE	2.4 M	500 AM 01/14	44.05N	86.33W
...MECOSTA COUNTY...				
1 ENE BIG RAPIDS	1.0 M	800 AM 01/14	43.70N	85.46W
...MUSKEGON COUNTY...				
3 ESE WOLF LAKE	2.0 M	700 AM 01/14	43.24N	86.05W
2 N MUSKEGON	3.0 M	700 AM 01/14	43.25N	86.25W
5 SSE TWIN LAKE	3.0 M	957 AM 01/14	43.30N	86.13W
4 SSE MUSKEGON	3.9 M	700 AM 01/14	43.17N	86.22W
MUSKEGON	4.2 M	800 AM 01/14	43.22N	86.25W
...NEWAYGO COUNTY...				
4 WSW FREMONT	2.5 M	700 AM 01/14	43.44N	86.02W
...OCEANA COUNTY...				
8 NW MONTAGUE	1.8 M	700 AM 01/14	43.50N	86.47W
4 NNE WALKERVILLE	2.4 M	600 AM 01/14	43.77N	86.09W
3 WSW HART	2.8 M	700 AM 01/14	43.68N	86.42W
...OTTAWA COUNTY...				
3 W WALKER	1.3 M	630 AM 01/14	43.00N	85.83W
4 NE HOLLAND	8.0 M	600 AM 01/14	42.83N	86.06W
GRAND HAVEN	9.0 M	645 AM 01/14	43.06N	86.22W
3 N HOLLAND STATE PARK	11.0 M	745 AM 01/14	42.83N	86.21W
...VAN BUREN COUNTY...				
4 NNE PAW PAW	1.5 M	700 AM 01/14	42.27N	85.86W
BLOOMINGDALE	3.0 M	700 AM 01/14	42.38N	85.96W

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